Exhibit A

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UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN FRANCISCO DIVISION

ORACLE AMERICA, INC.

Plaintiff,

v.

GOOGLE INC.

Defendant.

Case No. CV 10-03561 WHA

PLAINTIFF'S RESPONSES AND OBJECTIONS TO DEFENDANT GOOGLE INC.'S FIRST SET OF INTERROGATORIES TO PLAINTIFF ORACLE AMERICA, INC. (NOS. 1-10)

Dept.: Courtroom 9, 19th Floor
Judge: Honorable William H. Alsup

damages corresponding to Google's willful infringement—is in Google's possession, timely production of information and documents relating to damages by Google will be necessary in order for Oracle's experts to be able to provide detailed quantifications of Oracle's damages in their initial reports.

INTERROGATORY NO. 2:

State in detail Oracle's factual bases for its claim of direct copyright infringement, specifically including a comparison of each element of Java software, including without limitation any class libraries, API packages, method names, class names, definitions, organizational elements, parameters, structural elements, and documentation, to the corresponding Android element, as Oracle did in Exhibit J to its Amended Complaint.

RESPONSE TO INTERROGATORY NO. 2:

Oracle owns many copyrights in the code, documentation, specifications, libraries, and other materials that comprise the Java platform. As new versions of the Java platform were developed and the materials revised, the copyrights were registered with the United States Copyright Office, including TX0004416302; TX0004326014; TX0004616088; TX0005271787; TX0005316757; TX0005316758; TX0005359984; TX0005359985; TX0005359986; TX0005359987; TX0005392885; TX0006066538; TX0006143306; and TX0006196514. Google has infringed Oracle's copyrights.

Android Application Programmer Interface (API) package specifications (whether or not from the Apache Harmony project) that correspond to Oracle's Java API specifications are unauthorized derivative work, and Google's unauthorized copying and distribution of them is copyright infringement. A comparison of Android's API package specifications (available at http://developer.android.com/reference/packages.html) with Oracle's copyrighted Java API package specifications (for example, available at http://download.oracle.com/javase/1.5.0/docs/api/, http://download.oracle.com/javase/1.4.2/docs/api, and

http://download.oracle.com/javase/1.3/docs/api/)[8] demonstrates that the following Android package specifications are derived from or substantially similar to Oracle's copyrighted Java API package specifications:

1. java.awt.font
2. java.beans
3. java.io
4. java.lang
5. java.lang.annotation
6. java.lang.ref
7. java.lang.reflect
8. java.math
9. java.net
10. java.nio
11. java.nio.channels
12. java.nio.channels.spi
13. java.nio.charset
14. java.nio.charset.spi
15. java.security
16. java.security.acl
17. java.security.cert
18. java.security.interfaces
19. java.security.spec
20. java.sql
21. java.text
22. java.util

[8] Oracle's copyright infringement claim applies to all versions of Oracle's Java API specifications and reference implementations from which Android derives, which include J2SE 1.2, J2SE 1.3, J2SE 1.4, and J2SE 5.0.

23. java.util.concurrent
24. java.util.concurrent.atomic
25. java.util.concurrent.locks
26. java.util.jar
27. java.util.logging
28. java.util.prefs
29. java.util.regex
30. java.util.zip
31. javax.crypto
32. javax.crypto.interfaces
33. javax.crypto.spec
34. javax.net
35. javax.net.ssl
36. javax.security.auth
37. javax.security.auth.callback
38. javax.security.auth.login
39. javax.security.auth.x500
40. javax.security.cert
41. javax.sql
42. javax.xml
43. javax.xml.datatype
44. javax.xml.namespace
45. javax.xml.parsers
46. javax.xml.transform
47. javax.xml.transform.dom
48. javax.xml.transform.sax
49. javax.xml.transform.stream
50. javax.xml.validation

51. javax.xml.xpath

Some Android package API specifications are substantially similar to selected portions of some of the Oracle Java API package specifications (*e.g.*, java.awt.font, java.beans) while other Android package API specifications are substantially similar to complete portions of other Oracle Java API package specifications (*e.g.*, java.io, java.lang, java.net, java.nio, java.security, java.sql, java.text). Exhibits A-E are illustrative examples.[9]

The Android source and object code (whether or not from the Apache Harmony project) that purports to implement Oracle's Java API specifications is unauthorized derivative work, and Google's unauthorized copying and distribution of it is copyright infringement. *See, e.g.*, "What is Android?" (available at http://developer.android.com/guide/basics/what-is-android.html ("Android includes a set of core libraries that provides most of the functionality available in the core libraries of the Java programming language.")); Package Index (available at http://developer.android.com/reference/packages.html), including those API packages listed above, and subsidiary webpages; and source code and documentation files available in:[10]

- libcore\security\src\main\java\java\security;
- libcore\security\src\main\java\javax\security\cert;
- libcore\security\src\main\java\org\apache\harmony\security;
- libcore\math\src\main\java\java\math;
- libcore\math\src\main\java\org\apache\harmony\math;
- libcore\luni\src\main\java\java;
- libcore\luni\src\main\java\org\apache\harmony\luni;
- libcore\luni-kernel\src\main\java\java\lang;

[9] The illustrative examples are taken from http://download.oracle.com/javase/1.5.0/docs/api/ and http://developer.android.com/reference/packages html.

[10] It appears that Google has recently modified the source code currently available through http://android.git kernel.org. Such changes are subject to the discovery Oracle has propounded on Google. In any event, the cited source code examples are taken from http://android.git.kernel.org/. The citations are shortened and mirror the file paths shown in http://android.git.kernel.org/. For example, "dalvik\vm\native\InternalNative.c" maps to "[platform/dalvik.git] / vm / native / InternalNative.c" (accessible at http://android.git kernel.org/?p=platform/dalvik.git;a=blob;f=vm/native/InternalNative.c) before modification by Google.

- libcore\luni-kernel\src\main\java\org\apache\harmony\kernel;
- libcore\luni-kernel\src\main\java\org\apache\harmony\lang;
- libcore\nio\src\main\java\java.

Google has created and distributed infringing works written in native code, in addition to Java code, that derive from Oracle's copyrighted works. For example, Google makes and distributes dalvik\vm\native\java_lang_Class.c, which is based on Oracle's java.lang.Class specification. Other examples include:

- dalvik\vm\native\java_lang_Object.c
- dalvik\vm\native\java_lang_reflect_AccessibleObject.c;
- dalvik\vm\native\java_lang_reflect_Array.c;
- dalvik\vm\native\java_lang_reflect_Constructor.c;
- dalvik\vm\native\java_lang_reflect_Field.c;
- dalvik\vm\native\java_lang_reflect_Method.c;
- dalvik\vm\native\java_lang_reflect_Proxy.c;
- dalvik\vm\native\java_lang_Runtime.c;
- dalvik\vm\native\java_lang_String.c;
- dalvik\vm\native\java_lang_System.c;
- dalvik\vm\native\java_lang_Throwable.c;
- dalvik\vm\native\java_lang_VMClassLoader.c;
- dalvik\vm\native\java_lang_VMThread.c;
- dalvik\vm\native\java_security_AccessController.c;
- dalvik\vm\native\java_util_concurrent_atomic_AtomicLong.c; and
- dalvik\vm\native\sun_misc_Unsafe.c.

See also, e.g., source code files in libcore\luni\src\main\native; libcore\luni-kernel\src\main\native.

Google's Android videos directly reference inclusion of Java libraries in Android, *e.g.*:

- Google Presentation, entitled "Android: Securing a Mobile Platform from the Ground Up," presented by Rich Cannings (Google's Android Team) at the Usenix 18th

Security Symposium (Aug. 12, 2010), available at http://www.usenix.org/events/sec09/tech/.

- Google I/O 2010 Video, entitled "A JIT Compiler for Android's Dalvik VM," presented by Ben Cheng and Bill Buzbee (Google's Android Team), available at http://developer.android.com/videos/index.html#v=Ls0tM-c4Vfo.
- Google I/O 2008 Video, entitled "Dalvik Virtual Machine Internals," presented by Dan Bornstein (Google Android Project), available at http://developer.android.com/videos/index.html#v=ptjedOZEXPM.

Moreover, Google admits that Android incorporates a subset of Apache Harmony, which it asserts is "an implementation of Sun's Java." (*See, e.g.*, Google's Amended Counterclaims ¶¶ 6-7, 13.)

Google distributes by way of Android and Android-related websites source and object code derived from or substantially similar to Oracle's source code or to decompiled Oracle object code, including:

- /dalvik/libcore/support/src/test/java/org/apache/harmony/security/tests/support/acl/AclEntryImpl.java
- /dalvik/libcore/support/src/test/java/org/apache/harmony/security/tests/support/acl/AclImpl.java
- /dalvik/libcore/support/src/test/java/org/apache/harmony/security/tests/support/acl/GroupImpl.java
- /dalvik/libcore/support/src/test/java/org/apache/harmony/security/tests/support/acl/OwnerImpl.java
- /dalvik/libcore/support/src/test/java/org/apache/harmony/security/tests/support/acl/PermissionImpl.java
- /dalvik/libcore/support/src/test/java/org/apache/harmony/security/tests/support/acl/PrincipalImpl.java
- /dalvik/libcore/support/src/test/java/org/apache/harmony/security/tests/support/cert/PolicyNodeImpl.java

- /dalvik/libcore/support/src/test/java/org/apache/harmony/security/tests/support/acl/AclEnumerator.java (which was obtained by decompiling Oracle's /sun/security/acl/AclEnumerator.class)
- /dalvik/libcore/luni/src/main/java/java/util/TimSort.java contains code copied from Oracle's java/util/Arrays.java
- /dalvik/libcore/luni/src/main/java/java/util/ComparableTimSort.java contains code copied from Oracle's java/util/Arrays.java
- /dalvik/libcore/security/src/test/java/org/apache/harmony/security/tests/java/security/CodeSourceTest.java contains comments copied from Oracle's /java/security/CodeSource.java
- /dalvik/libcore/security/src/test/java/tests/security/cert/CollectionCertStoreParametersTest.java contains comments copied from Oracle's /java/security/cert/CollectionCertStoreParameters.java

Additional supporting evidence of Google's copyright infringement can be found at, *e.g.*, GOOGLE-00248372; GOOGLE-00296156-75; GOOGLE-00296453-60; GOOGLE-00296959-61; GOOGLE-00296500-03; GOOGLE-00296507; GOOGLE-00297265; GOOGLE-00297033-38, GOOGLE-00297252-57, GOOGLE-00297361-65 and similar questionnaires signed by other developers; GOOGLE-00296203-07; GOOGLE-00296498-99; GOOGLE-00296523-24; GOOGLE-00296525-26; GOOGLE-00297075-76.

Discovery is ongoing, and Oracle has not yet completed its investigation of the documents and facts relevant to the claims and defenses asserted in this action. Accordingly, Oracle's responses are based on the information reasonably available at this time and Oracle will supplement this response as appropriate under the Federal Rules of Civil Procedure.

INTERROGATORY NO. 3:

State in detail Oracle's factual bases for each element of indirect copyright infringement, specifically including an identification of any direct infringement and a description of the acts of the alleged indirect infringer that contribute to or are inducing that direct infringement.